SRC Configuration Wizards

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Table of Contents

List of Figures

List of Tables

About the Documentation

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Supported Platforms

For the features described in this document, the following platforms are supported:

- C Series

Documentation Conventions

Table 1 on page x defines notice icons used in this guide.

Table 1: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Documentation Conventions

Table 1 on page x defines the notice icons used in this guide. Table 3 on page xi defines text conventions used throughout this documentation.

Table 2: Notice Icons

Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 3: Text Conventions

Convention	Description	Examples
Bold text like this	• Represents keywords, scripts, and tools in text. • Represents a GUI element that the user selects, clicks, checks, or clears.	• Specify the keyword **exp-msg**. • Run the **install.sh** script. • Use the **pkgadd** tool. • To cancel the configuration, click **Cancel**.
Bold text like this	Represents text that the user must type.	**user@host# set cache-entry-age** *cache-entry-age*

`Fixed-width text like this`	Represents information as displayed on your terminal's screen, such as CLI commands in output displays.	`nic-locators {`
		`  login {`
		`  resolution {`
		`  resolver-name /realms/`
		`  login/A1;`
		`  key-type LoginName;`
		`  value-type SaeId;`
		`  }`

Regular sans serif typeface	• Represents configuration statements. • Indicates SRC CLI commands and options in text. • Represents examples in procedures. • Represents URLs.	• **system ldap server{ stand-alone;** • Use the **request sae modify device failover** command with the **force** option • **user@host# . . .** • http://www.juniper.net/techpubs/software/management/sdx/api-index.html

Table 3: Text Conventions *(continued)*

Italic sans serif typeface	Represents variables in SRC CLI commands.	**user@host# set local-address *local-address***
Angle brackets	In text descriptions, indicate optional keywords or variables.	Another runtime variable is <gfwif>.
Key name	Indicates the name of a key on the keyboard.	Press Enter.
Key names linked with a plus sign (+)	Indicates that you must press two or more keys simultaneously.	Press Ctrl + b.
Italic typeface	• Emphasizes words. • Identifies book names. • Identifies distinguished names. • Identifies files, directories, and paths in text but not in command examples.	• There are two levels of access: *user* and *privileged*. • *SRC-PE Getting Started Guide.* • *o=Users, o=UMC* • The */etc/default.properties* file.
Backslash	At the end of a line, indicates that the text wraps to the next line.	Plugin.radiusAcct-1.class=\ net.juniper.smgt.sae.plugin\ RadiusTrackingPluginEvent
Words separated by the | symbol	Represent a choice to select one keyword or variable to the left or right of this symbol. (The keyword or variable may be either optional or required.)	diagnostic | line

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For international or direct-dial options in countries without toll-free numbers, see http://www.juniper.net/support/requesting-support.html.

PART 1

Overview

CHAPTER 1

Software Features Overview

SRC Configuration Wizards Overview (SRC CLI)

The SRC software includes configuration *wizards* to simplify configuring the most common configuration scenarios. Each configuration wizard uses an XML definition file that generates a specific configuration scenario. Most of the configuration is predefined in the definition file. However, because each configuration scenario is unique, definition files cannot predefine all options, so the wizard prompts you for input specific to your implementation.

How Configuration Wizards Work (SRC CLI)

You can invoke a configuration wizard from the SRC CLI. At runtime, the configuration wizard processes the definition file and presents the corresponding configuration steps. The interface prompts you to enter information for any options specific to your configuration that are not predefined in the definition file. The values you enter are used for the respective parameters in the definition file. After you enter all required parameters, the interface displays a list of SRC CLI set commands corresponding to the parameters you entered. After you review the configuration, you can either select Commit to commit the configuration or you can select Back to make changes to the parameters.

While running a configuration wizard, if you close the wizard midway, the uncommitted configurations are saved to a temporary file called the *tag* file. The naming convention of a tag file is ***<wizard definition filename>_<username>_*** **CLItag_*<timestamp>*.tmp**.

Where:

- *wizard definition filename*—Specifies the name of the wizard definition file.
- *username*—Specifies the name of the user.
- *timestamp*—Specifies the current system timestamp.

You can resume the configuration at any time later by using the **[configuration-wizard *wizard-name* tag *tag-file-name*]** command. When you commit the configuration changes, the saved tag file is automatically deleted.

Navigating Screens in the Wizard (SRC CLI)

The wizard interface consists of buttons, which you navigate using the keyboard. Figure 1 on page 4 shows a sample screen for the configuration wizard. Because each wizard configures a different scenario, each wizard is unique.

Figure 1: Sample SRC Configuration Wizard Screen (SRC CLI)

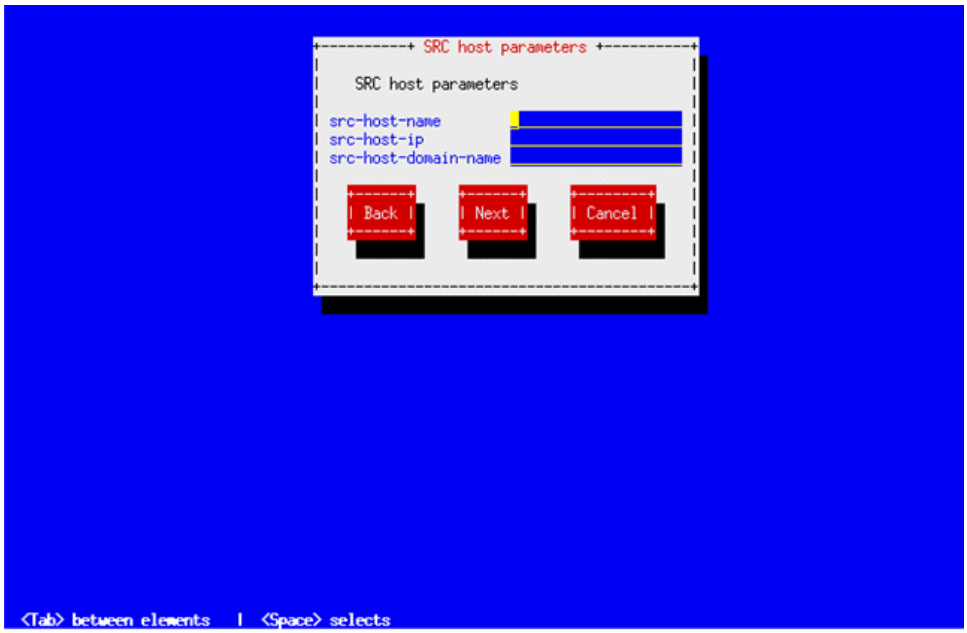


Table 4 on page 4 and Table 5 on page 5 list the buttons and navigation keys for the configuration wizard.

Table 4: Wizard Buttons (SRC CLI)

Button	Description
Back	Go to the previous step.
Next	Go to the next step.
Cancel	Stop the execution of the command **[configuration-wizard *wizard-name* tag *tag-file-name*]**.
Finish	Select this button only after you configure all arguments.
Commit	Commit the wizard configuration.

Table 5: Wizard Navigation Keys

Key	Description
Tab	Move between buttons (elements) such as Back, Next, Cancel, Commit, Finish, and so on.
Space bar	Select the highlighted button.

Related Documentation

- Running a Configuration Wizard (SRC CLI) on page 25
- SRC Configuration Wizards Overview (C-Web Interface) on page 5

SRC Configuration Wizards Overview (C-Web Interface)

The C-Web configuration wizard enables you to enter the most common configuration scenarios and prompts you for input specific to your configuration scenario. At the end of the wizard, you can either commit or discard the configuration changes that are displayed in a tree-like format.

How the Configuration Wizards Work (C-Web Interface)

You can invoke a configuration wizard from the SRC C-Web interface. The configuration wizard uses the standard or customized wizard definition file as input to group and present related configurations on a single page of the wizard. You can upload the customized definition file by navigating to the specific wizard definition file from your environment. You can also edit the wizard definition file, upload the modified file, and customize the configuration wizard display by using the C-Web interface. In the pop-up wizard, each configuration step is presented in the order in which it is defined in the wizard definition file. A step is composed of closely knit configuration inputs for the same component. A collection defines repetitive steps in the wizard, which enables you to use multiple instances of the configuration setup. Collections helps you easily configure multiple instances.

When you close the configuration wizard pop-up, a confirmation pop-up asks you if you want to save the uncommitted changes. On confirmation, the uncommitted changes are saved in a temporary file called the *tag* file. The naming convention of a tag file is ***<wizard definition filename>***_***<username>***_Cwebtag_***<timestamp>***.tmp.

Where:

- *wizard definition filename*—Specifies the name of the wizard definition file.
- *username*—Specifies the name of the user.
- *timestamp*—Specifies the current system timestamp.

To resume configuration at a later time, you need to specify the tag filename and the wizard name. When you commit the configuration changes, the saved tag file is automatically deleted.

Navigating Screens in the Wizard (C-Web Interface)

You can navigate around the wizard pop-up using the **next** and **back** buttons. On each wizard pop-up, enter the configuration data. When you finish configuring the data on all wizard pop-ups, click **Finish** to view the modified configuration changes along with any validation errors. The commit button is unavailable if any validation error is displayed in the wizard. In this case, click **<< Go Back** to navigate to the wizard pop-up for making changes in the configuration. When no validation errors are displayed in the modified configuration wizard, you can click **Commit** after checking the configuration to commit your changes. Figure 2 on page 6 shows a sample screen for the C-Web configuration wizard.

Figure 2: Sample SRC Configuration Wizard Screen (C-Web Interface)

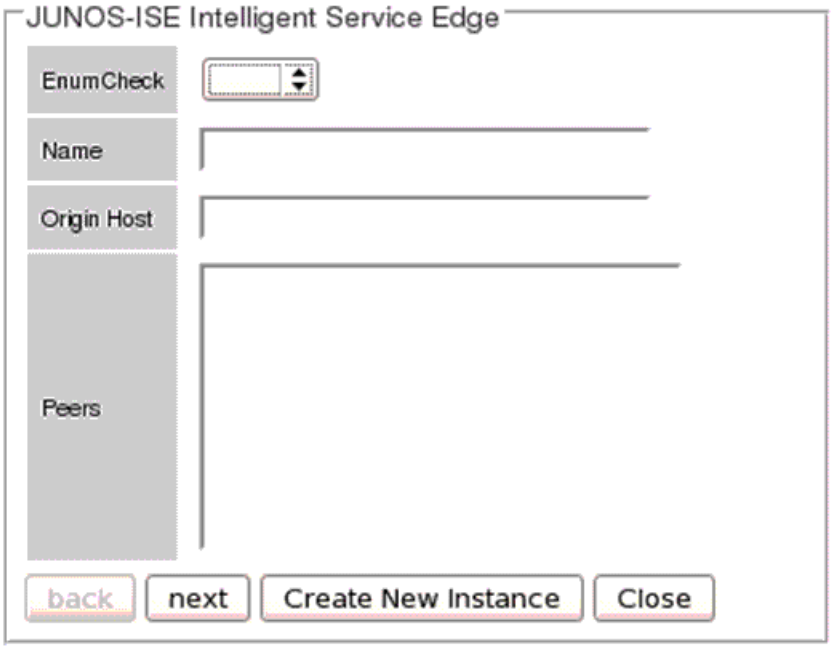


Table 6 on page 6 lists the buttons for the configuration wizard pop-up.

Table 6: Wizard Pop-up Buttons

Button	Description
back	Go to the previous step.
next	Go to the next step.
Close	Close the wizard pop-up.
Create New Instance	Create a new collection instance. NOTE: You can view this button only if the configuration inputs are part of a collection.

Table 6: Wizard Pop-up Buttons *(continued)*

Button	Description
Commit	Commit the wizard configuration. NOTE: This button is displayed only in the final wizard pop-up containing the modified configuration tree.
<<Go Back	Navigate back to the configuration wizard pop-up. NOTE: This button is displayed only in the final wizard pop-up containing the modified configuration tree.
Finish	Display the modified configuration wizard in a tree-like format. NOTE: This button is displayed on the last page of the wizard pop-up.

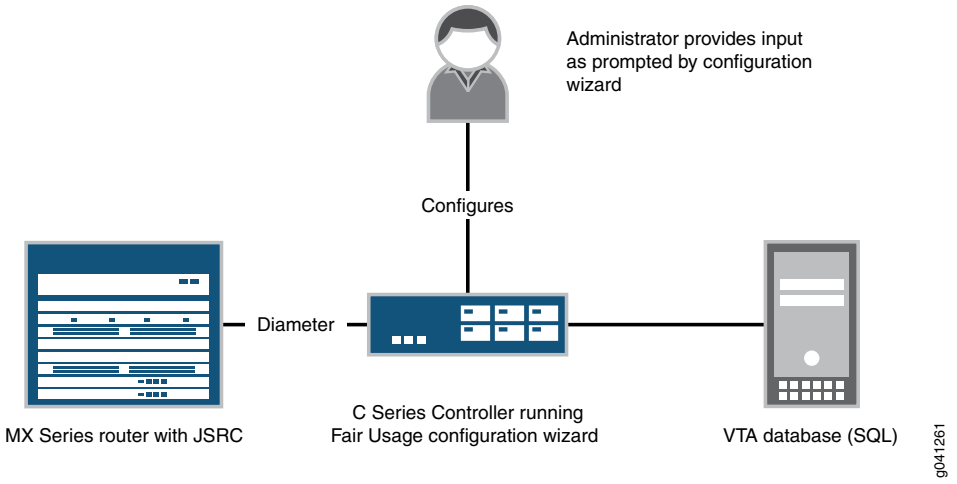
Related Documentation

- Running a Configuration Wizard (C-Web Interface) on page 26
- SRC Configuration Wizards Overview (SRC CLI) on page 3

Fair Usage on MX Series Routers Configuration Wizard Overview

The fair usage on MX Series routers configuration wizard creates the SRC configuration shown in Figure 3 on page 7. In the default configuration created by the wizard, each SRC VTA subscriber is initialized with a certain amount of periodic quota but no purchased quota. The SAE maps all subscribers to a single subscriber profile, which has both high-speed and low-speed service subscriptions. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber's quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps.

Figure 3: Fair Usage on MX Series Routers Configuration Wizard Topology



The fair usage on MX Series routers configuration wizard requires one C Series Controller, one SQL database, and one MX Series router. The wizard configures a single SRC host. The wizard does not configure the SQL database or the MX Series router; you must configure these separately in order for them to work with the configuration created by the wizard.

The SRC policies and service substitution configured by the wizard refer to certain Junos OS dynamic profile names and firewall filter names. You must configure these names on the MX Series router for the configuration to work properly. Alternatively, you can modify these names in the SRC CLI to match those configured on the MX Series router after you run the wizard and commit the SRC configuration.

The wizard configures the SRC VTA component to use a MySQL database. This database must be deployed on a separate host and you must create the database by using the "vta-database-mysql.sql" file, which is included with the SRC VTA component. The wizard requires you to enter the database host IP address, database username, and password.

The wizard also requires you to enter the SRC hostname, IP address, and domain name, as well as the router hostname, IP address, and domain name. These parameters are essential for the configuration of Diameter peers and SAE-managed devices.

Related Documentation

- Fair Usage on MX Series Routers Configuration Wizard Configuration Overview on page 8
- Running the Fair Usage on MX Series Routers Configuration Wizard (SRC CLI) on page 23

Fair Usage on MX Series Routers Configuration Wizard Configuration Overview

When you use the fair usage on MX Series routers configuration wizard, the wizard definition file specifies most of the SRC configuration. However, you must provide values for certain parameters in the configuration.

Fair Usage on MX Series Routers Configuration Wizard Definition File

The fair usage on MX Series routers configuration wizard definition file is an .xml file that controls the parameters of the wizard.

The following sample shows the definition file for the fair usage on MX Series routers configuration wizard. The first part of the definition file defines the dialog boxes you use to enter values specific to your environment. The next part of the definition file lists the SRC CLI set commands the wizard invokes.

This file is shown only for reference purposes. Modification of definition files is not supported.

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE cli SYSTEM "configuration-wizard.dtd">
<cli name="fair-usage-mx">
 <help>Configure SRC for fair usage MX scenario</help>
 <step name="src-config">
```

```
  <step name="src-host-parameters">
    <caption>SRC host parameters</caption>
    <help>SRC host parameters</help>
    <description>
      This step collect SRC host parameters that will be used
      in configuration. The parameters are SRC host names, IP addresses
      and domain names.
    </description>
    <wiz-argument name="src-host-name" mandatory="true">
      <help>SRC host name</help>
      <description>SRC host name.</description>
    </wiz-argument>
    <wiz-argument name="src-host-ip" mandatory="true" type="inet">
      <help>SRC host IP address</help>
      <description>SRC host IP address used to communicate with diameter peers and
 VTA database.</description>
    </wiz-argument>
    <wiz-argument name="src-host-domain-name" mandatory="true">
      <help>SRC host domain name</help>
      <description>SRC host domain name used as origin-realm for
diameter.</description>
    </wiz-argument>
  </step>
  <step name="vta-db-host-parameters">
    <caption>VTA database host and database parameters</caption>
    <help>VTA database host and database parameters</help>
    <description>
      This step collect VTA database host and database parameters that will be used
      in configuration. The parameters are VTA database host IP addresses, database
      connection user name and password.
    </description>
    <wiz-argument name="vta-database-ip" mandatory="true" type="inet">
      <help>VTA database IP address</help>
      <description>The IP address of the host where VTA database runs.</description>

    </wiz-argument>
    <wiz-argument name="vta-database-user" mandatory="true">
      <help>VTA database connection user name</help>
      <description>The user name for VTA to connect to VTA database.</description>

    </wiz-argument>
   <wiz-argument name="vta-database-passwd" mandatory="true" type="passwd">

      <help>VTA database connection password</help>
      <description>The password for VTA to connect to VTA database.</description>
    </wiz-argument>
  </step>
  <step name="router-host-parameters">
    <caption>Router host parameters</caption>
    <help>Router host parameters</help>
    <description>
      This step collect router host parameters that will be used
      in configuration. The parameters are router host names, IP addresses
      and domain names.
    </description>
    <wiz-argument name="mx-router-name" mandatory="true">
```

```
        <help>Router host name</help>
       <description>Router host name used as diameter peer origin-host and SRC network
 device name.</description>
      </wiz-argument>
      <wiz-argument name="mx-router-ip" mandatory="true" type="inet">
        <help>Router IP address</help>
        <description>Router IP address used for diameter and SRC network device
address.</description>
      </wiz-argument>
      <wiz-argument name="mx-router-domain-name" mandatory="true">
        <help>Router domain name</help>
        <description>Router domain name used as diameter peer
origin-realm.</description>
      </wiz-argument>
      <configuration>
      set system diameter active-peers
      set system diameter local-address {src-config src-host-parameters src-host-ip}
      set system diameter origin-host {src-config src-host-parameters src-host-name}
      set system diameter origin-realm {src-config src-host-parameters
src-host-domain-name}
      set system diameter port 3868
      set system diameter protocol tcp

      set shared network diameter peer {src-config router-host-parameters
mx-router-name} active-peer
      set shared network diameter peer {src-config router-host-parameters
mx-router-name} address {src-config router-host-parameters mx-router-ip}
      set shared network diameter peer {src-config router-host-parameters
mx-router-name} connect-timeout 10
      set shared network diameter peer {src-config router-host-parameters
mx-router-name} origin-host {src-config router-host-parameters mx-router-name}
      set shared network diameter peer {src-config router-host-parameters
mx-router-name} port 3868
      set shared network diameter peer {src-config router-host-parameters
mx-router-name} protocol tcp

      set shared network device {src-config router-host-parameters mx-router-name}
description 'A MX fair usage device'
      set shared network device {src-config router-host-parameters mx-router-name}
device-type junos-ise
      set shared network device {src-config router-host-parameters mx-router-name}
management-address {src-config router-host-parameters mx-router-ip}
      set shared network device {src-config router-host-parameters mx-router-name}
origin-host {src-config router-host-parameters mx-router-name}
      set shared network device {src-config router-host-parameters mx-router-name}
peers {src-config router-host-parameters mx-router-name}
      set shared network device {src-config router-host-parameters mx-router-name}
virtual-router * sae-connection {src-config src-host-parameters src-host-ip}

      set policies folder fair-usage-ise group MXCaptivePolicy list captive-list applicability
 both
     set policies folder fair-usage-ise group MXCaptivePolicy list captive-list role junos-ise

      set policies folder fair-usage-ise group MXCaptivePolicy list captive-list rule rule-1
type junos-ise
      set policies folder fair-usage-ise group MXCaptivePolicy list captive-list rule rule-1
```

```
dynamic-profile profile-name src_driven_captive_profile
    set policies folder fair-usage-ise group MXQuotaPolicy description 'Quota Policy'
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list applicability
both
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list role junos-ise
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
accounting
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1 type
 junos-ise
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile profile-name src_driven_quota_profile
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables input type any
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables input value ingress_filter_to_use
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables output type any
    set policies folder fair-usage-ise group MXQuotaPolicy list quota_list rule rule-1
dynamic-profile variables output value egress_filter_to_use
    set policies folder fair-usage-ise group MXQuotaPolicy local-parameters
egress_filter_to_use type any
    set policies folder fair-usage-ise group MXQuotaPolicy local-parameters
ingress_filter_to_use type any

    set services global service MXQuotaInternet accounting-interim-interval 600
    set services global service MXQuotaInternet available
    set services global service MXQuotaInternet category Internet
   set services global service MXQuotaInternet description 'MX quota high speed service,
 supposed to be used as VTA behaving service'
    set services global service MXQuotaInternet policy-group
/fair-usage-ise/MXQuotaPolicy
    set services global service MXQuotaInternet radius-class MXQuotaInternet
    set services global service MXQuotaInternet status active
    set services global service MXQuotaInternet tracking-plug-in quotavta
    set services global service MXQuotaInternet type normal
    set services global service MXQuotaLowSpeed accounting-interim-interval 600
    set services global service MXQuotaLowSpeed available
    set services global service MXQuotaLowSpeed category Internet
    set services global service MXQuotaLowSpeed description 'MX quota low speed
service, supposed to be used as VTA misbehaving service'
    set services global service MXQuotaLowSpeed policy-group
/fair-usage-ise/MXQuotaPolicy
    set services global service MXQuotaLowSpeed radius-class MXQuotaInternet
    set services global service MXQuotaLowSpeed status active
    set services global service MXQuotaLowSpeed tracking-plug-in quotavta
    set services global service MXQuotaLowSpeed type normal
    set services global service MXCaptive available
    set services global service MXCaptive description 'MX captive service, supposed to
be used as VTA misbehaving service'
    set services global service MXCaptive policy-group /fair-usage-ise/MXCaptivePolicy

    set services global service MXCaptive radius-class MXCaptive
    set services global service MXCaptive status active
    set services global service MXCaptive tracking-plug-in quotavta
    set services global service MXCaptive type normal
```

```
    set subscribers retailer fair-usage-mx domain-name fair-usage-mx.com
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 common-name One
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 surname Quotasubscriber
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXCaptive activation manual
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXCaptive status active
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet activation automatically-on-login
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet status active
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaInternet substitution [
'egress_filter_to_use=\"10m-service\"' 'ingress_filter_to_use=\"10m-service\"' ]
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaLowSpeed activation manual
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaLowSpeed status active
    set subscribers retailer fair-usage-mx subscriber-folder local subscriber
quota-subscriber-1 subscription MXQuotaLowSpeed substitution [
'egress_filter_to_use=\"256k-service\"' 'ingress_filter_to_use=\"256k-service\"' ]

    set slot 0 nic scenario-name OnePopLogin
    set slot 0 nic snmp-agent

    set slot 0 sae shared /SAE/fair-usage

    set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
jndi-sae-event-listener vta-Quota/SAEEventListenerBean
    set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
application-server-url {src-config src-host-parameters src-host-ip}:1099
    set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
ejb-clustering-strategy EJBObjectClustering
    set shared sae group fair-usage configuration plug-ins name quotavta ejb-adaptor
jndi-service-provider org.jnp.interfaces.NamingContextFactory
    set shared sae group fair-usage configuration plug-ins name nic external
corba-object-reference corbaname::{src-config src-host-parameters
src-host-ip}:2809/NameService#nicsae/saePort
    set shared sae group fair-usage configuration plug-ins event-publishers
subscriber-tracking [fileAcct quotavta nic ]
    set shared sae group fair-usage configuration plug-ins event-publishers
service-tracking [fileAcct quotavta ]
    set shared sae group fair-usage subscriber-classifier rule rule-mx target
uniqueID=quota-subscriber-1,ou=local,retailerName=fair-usage-mx,o=Users,o=umc
    set shared sae group fair-usage subscriber-classifier rule rule-mx condition
nasPortId==ge-*
    insert shared sae group fair-usage subscriber-classifier rule rule-mx before rule-1

    set slot 0 application-server web virtual-host eth0 alias [ {src-config
src-host-parameters src-host-name} {src-config src-host-parameters src-host-ip} ]

    set shared vta group Quota nic-proxy IdToSaeNicProxy
    set shared vta group fairusage subscriber-id-solution login-name
   set shared vta group fairusage action CalcUsage function db-engine-calculate-usage
```



```
    set shared vta group fairusage action CalculateInterim function
db-engine-calculate-interim
    set shared vta group fairusage action DebitAccounts function
db-engine-update-accounts
    set shared vta group fairusage action DebitAccounts parameter script-name
DebitQuotaUsage
    set shared vta group fairusage action GetAccountBalances function
db-engine-get-accounts
    set shared vta group fairusage action SetInterim function sae-set-interim-interval
    set shared vta group fairusage action SetInterim parameter current-subscriber-only

   set shared vta group fairusage action StartCaptiveService function sae-start-service

    set shared vta group fairusage action StartCaptiveService parameter
current-subscriber-only
    set shared vta group fairusage action StartCaptiveService parameter
subscription-name MXCaptive
    set shared vta group fairusage action StartQuotaInternetService function
sae-start-service
    set shared vta group fairusage action StartQuotaInternetService parameter
current-subscriber-only
    set shared vta group fairusage action StartQuotaInternetService parameter
subscription-name MXQuotaInternet
    set shared vta group fairusage action StartQuotaLowSpeedService function
sae-start-service
    set shared vta group fairusage action StartQuotaLowSpeedService parameter
current-subscriber-only
    set shared vta group fairusage action StartQuotaLowSpeedService parameter
subscription-name MXQuotaLowSpeed
    set shared vta group fairusage action StopQuotaInternetService function
sae-stop-service
    set shared vta group fairusage action StopQuotaInternetService parameter
current-subscriber-only
    set shared vta group fairusage action StopQuotaInternetService parameter
subscription-name MXQuotaInternet
    set shared vta group fairusage action StopQuotaLowSpeedService function
sae-stop-service
    set shared vta group fairusage action StopQuotaLowSpeedService parameter
current-subscriber-only
    set shared vta group fairusage action StopQuotaLowSpeedService parameter
subscription-name MXQuotaLowSpeed
    set shared vta group fairusage action TerminateSession function
db-engine-terminate-session
    set shared vta group fairusage database check-valid-connection-sql 'select 1'
    set shared vta group fairusage database connection-url jdbc:mysql://{src-config
vta-db-host-parameters vta-database-ip}:3306/quotavta
    set shared vta group fairusage database datasource-mapping mySQL
    set shared vta group fairusage database driver-class com.mysql.jdbc.Driver
    set shared vta group fairusage database max-pool-size 50
    set shared vta group fairusage database min-pool-size 5
    set shared vta group fairusage database password {src-config
vta-db-host-parameters vta-database-passwd}
    set shared vta group fairusage database user-name {src-config
vta-db-host-parameters vta-database-user}
   set shared vta group fairusage event-handler GetQuota actions GetAccountBalances
```

```
    set shared vta group fairusage event-handler GetQuota events [
service-start:MXQuotaInternet service-start:MXQuotaLowSpeed
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed
service-stop:MXQuotaInternet service-stop:MXQuotaLowSpeed account-update ]
    set shared vta group fairusage event-handler GetQuota priority 1
    set shared vta group fairusage event-handler RecordUsage actions [ CalcUsage
DebitAccounts ]
    set shared vta group fairusage event-handler RecordUsage events [
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed
service-stop:MXQuotaInternet service-stop:MXQuotaLowSpeed ]
    set shared vta group fairusage event-handler RecordUsage priority 5
    set shared vta group fairusage event-handler SetInterim actions [ CalculateInterim
SetInterim ]
    set shared vta group fairusage event-handler SetInterim condition 'return
&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;&gt;0;'
    set shared vta group fairusage event-handler SetInterim events [
service-start:MXQuotaInternet service-start:MXQuotaLowSpeed
service-interim:MXQuotaInternet service-interim:MXQuotaLowSpeed ]
    set shared vta group fairusage event-handler SetInterim priority 10
    set shared vta group fairusage event-handler NoQuota actions [
StopQuotaInternetService StartQuotaLowSpeedService ]
    set shared vta group fairusage event-handler NoQuota condition 'return
&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;&lt;=0;'
    set shared vta group fairusage event-handler NoQuota events [
service-start:MXQuotaInternet service-interim:MXQuotaInternet ]
    set shared vta group fairusage event-handler NoQuota priority 15
    set shared vta group fairusage event-handler QuotaRefilled actions [
StopQuotaLowSpeedService StartQuotaInternetService ]
    set shared vta group fairusage event-handler QuotaRefilled condition 'var
newBalance=&lt;balance_BoughtQuota&gt;+&lt;balance_PeriodicQuota&gt;;\n
if(&lt;old_balance_PeriodicQuota&gt;==null)
&lt;old_balance_PeriodicQuota&gt;=&lt;balance_PeriodicQuota&gt;;\n
if(&lt;old_balance_BoughtQuota&gt;==null)
&lt;old_balance_BoughtQuota&gt;=&lt;balance_BoughtQuota&gt;;\n   return
&lt;old_balance_PeriodicQuota&gt;+&lt;old_balance_BoughtQuota&gt;&lt;=0&amp;
&amp;newBalance&gt;0;'
    set shared vta group fairusage event-handler QuotaRefilled events account-update

    set shared vta group fairusage event-handler QuotaRefilled priority 20
    set shared vta group fairusage event-handler EndofBilling actions TerminateSession

    set shared vta group fairusage event-handler EndofBilling events
callback:TERMINATESESSION
    set shared vta group fairusage event-handler EndofBilling priority 25
    set shared vta group fairusage processor db-engine record-balance-change
    set shared vta group fairusage processor db-engine account BoughtQuota
initial-balance 0
   set shared vta group fairusage processor db-engine account BoughtQuota initial-status
 Inactive
    set shared vta group fairusage processor db-engine account PeriodicQuota
initial-balance 100000000000
    set shared vta group fairusage processor db-engine account PeriodicQuota
initial-status Active
    set shared vta group fairusage processor db-engine account-update-script
DebitQuotaUsage script '  var newPeriodicBalance=0;\n  var newBoughtBalance=0;\n
```

```
 if(&lt;currentUsage&gt;=&lt;balance_PeriodicQuota&gt;){\n
newPeriodicBalance=&lt;balance_PeriodicQuota&gt;-&lt;currentUsage&gt;;\n
newBoughtBalance=&lt;balance_BoughtQuota&gt;;\n  }\n  else
if(&lt;currentUsage&gt;&lt;=(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)){\n
   newBoughtBalance=&lt;balance_BoughtQuota&gt;-(&lt;currentUsage&gt;
-&lt;balance_PeriodicQuota&gt;);\n   newPeriodicBalance=0;\n  }\n
if(newPeriodicBalance!=&lt;balance_PeriodicQuota&gt;){\n
&lt;balance_PeriodicQuota&gt;=newPeriodicBalance;\n
&lt;lastUpdateTime_PeriodicQuota&gt;=&lt;currentTime&gt;;\n  }\n
if(newBoughtBalance!=&lt;balance_BoughtQuota&gt;){\n
&lt;balance_BoughtQuota&gt;=newBoughtBalance;\n
&lt;lastUpdateTime_BoughtQuota&gt;=&lt;currentTime&gt;;\n  }'
     set shared vta group fairusage processor db-engine service MXQuotaInternet
interim-interval-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
     set shared vta group fairusage processor db-engine service MXQuotaInternet
usage-metric-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
     set shared vta group fairusage processor db-engine service MXQuotaLowSpeed
interim-interval-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
     set shared vta group fairusage processor db-engine service MXQuotaLowSpeed
usage-metric-function 'return Math.min(7200,Math.max(900,
(&lt;balance_PeriodicQuota&gt;+&lt;balance_BoughtQuota&gt;)/250000));'
     set shared vta group fairusage queue max-concurrency 50
     set shared vta group fairusage queue max-queue-size 100000
     </configuration>
   </step>
  </step>
</cli>
```


The following sections describe which parameters are predefined by the wizard and which parameters require your input.

Configuration Provided by the Fair Usage on MX Series Routers Configuration Wizard

The fair usage on MX Series routers configuration wizard configures the SRC components and configuration trees described in Table 7 on page 15. Most of the SRC configuration is defined by the wizard definition file. Some parameters are configured based on your inputs to the configuration wizard interface.

Table 7: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard

SRC Component or Configuration Tree	Description
Web application server (appsvr)	The wizard configures the Web application server, web virtual host eth0 alias, based on the input you provide for the src-host-name and src-host-ip parameters.

Table 7: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard *(continued)*

SRC Component or Configuration Tree	Description
Diameter application	The wizard configures the Diameter application based on the values you enter for the following SRC host parameters in the wizard interface: • Origin-host—The wizard configures the Diameter origin-host based on the value you enter for the src-host-name parameter. • Origin-realm—The wizard configures the Diameter origin-realm based on the value you enter for the src-host-domain-name parameter. • Local-address—The wizard configures the Diameter local-address based on the value you enter for the src-host-ip parameter.
Diameter peer	The wizard configures the Diameter peer parameters for the MX Series router based on the values you enter for the following router host parameters: • Diameter peer address—The wizard configures the IP address for the Diameter peer based on the value you enter for the mx-router-ip parameter. • Diameter peer origin-host—The wizard configures the origin-host of the Diameter peer based on the value you enter for the mx-router-name. For the connection to the Diameter peer, the wizard uses TCP, port 3868, and specifies the connection as active.
NIC	The wizard configures the NIC to use the OnePopLogin scenario.
SAE	The wizard uses the SAE group name “fair-usage”, which must exist before invoking the wizard. If the group “fair-usage” does not exist, you must create it by committing **set slot 0 sae shared /SAE/fair-usage**. Because the wizard uses a single-step configuration commit process, it is not possible to commit the local and shared SAE configurations simultaneously. The wizard configures the following parameters for the SAE: • SRC VTA ejb-adaptor plug-ins • NIC plug-ins • Plug-ins event publisher • SAE logger • Subscriber classifier. All subscribers are classified to a single SRC VTA user profile.

Table 7: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard *(continued)*

SRC Component or Configuration Tree	Description
VTA	*Services*—The wizard configures an SRC VTA group called "fair-usage" and two services. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber's quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps. The real service behavior depends on the MX Series router firewall filter configuration. *External MySQL database*—The wizard requires an external MySQL database, which you must configure. The wizard configures basic parameters for the external database based on the values you specify in the wizard VTA database host and database parameters dialog box. The database connection-url is based on the value you enter for the vta-database-ip parameter. The username and password are based on the values you enter for vta-database-user and vta-database-pass. If you want to use a database other than MySQL, you must customize the configuration using the SRC CLI after you commit the configuration using the wizard. *SRC VTA NIC proxy*—The wizard uses the IdToSaeNicProxy NIC proxy, which uses the subscriber ID to locate the SAE when NIC resolution is needed. The wizard also configures the NIC to use the OnePopLogin scenario. *Event Handlers*—The wizard configures event handlers so that when there is no quota left for a subscriber, its MXQuotaInternet service is stopped and the MXQuotaLowSpeed service is started. When the subscriber's quota is refilled, the MXQuotaLowSpeed service is stopped and the MXQuotaInternet service is restarted. *db-engine processor*—The wizard configures the db-engine processor with some initial balance in the PeriodQuota account. The SRC VTA quota account is debited according to the DebitQuotaUsage script. *Actions*—The wizard configures actions to retrieve account balances, debit accounts, calculate usage, and start and stop services.
Policies	The wizard creates a policy folder named "fair-usage-ise" and two policies. The service policy named "MXQuotaPolicy" uses a dynamic profile named "src_driven_quota_profile". The policy named "MXCaptivePolicy" uses a dynamic profile named "src_driven_captive_profile."
Services	The wizard configures two services. The high-speed service, called MXQuotaInternet, operates at 10 Mbps and is activated when the subscriber logs in. The MXQuotaInternet service continues to run until the subscriber's quota is exhausted. When the quota is exhausted, the subscriber is switched to the low-speed service called MXQuotaLowSpeed, which operates at 256 Kbps. Both of the services use quota as the tracking plug-in.
Subscribers	The wizard configures one subscriber named "quota-subscriber-1" that subscribes to both the MXQuotaInternet and the MXQuotaLowSpeed services.

Table 7: SRC Configuration Parameters Supplied by the Fair Usage on MX Series Routers Configuration Wizard *(continued)*

SRC Component or Configuration Tree	Description
shared network device (configuration tree)	The shared network device configuration tree sets up the MX Series router so that it can be managed by the SAE. The wizard specifies the router as a junos-ise type device and adds "A MX fair usage device" as the device description. The management-address assigned by the wizard is based on the value you enter for the mx-router-ip parameter. The origin-host assigned by the wizard is based on the value you enter for the mx-router-name parameter. The wizard specifies the router as a peer to the SAE based on the value you enter for the mx-router-name. The wizard specifies the IP address of the SAE that manages the router based on the value you enter for the src-host-ip parameter.

Required Input Parameters for the Fair Usage on MX Series Routers Configuration Wizard

The fair usage on MX Series routers configuration wizard requires you to input certain parameters that are specific to your environment. When you run the wizard, you are prompted to enter these parameters. Table 8 on page 18 describes these parameters in detail.

Table 8: Input Parameters Required by the Fair Usage on MX Series Routers Configuration Wizard

Type of Parameters	Parameters
SRC host parameters	• src-host-name—The wizard uses the value you enter as the origin-host for the SRC Diameter application. • src-host-ip—The wizard uses the value you enter as the local-address for the SRC Diameter application. • src-host-domain-name—The wizard uses the value you enter as the origin-realm for the SRC Diameter application.
Database host and database parameters used by the SRC VTA	The wizard configures the SRC VTA component to use an external MySQL database, but it does not configure the external database. You must deploy the database on a separate host and create the database by using the "vta-database-mysql.sql" file, which is included with the SRC software. The wizard requires you to enter the following parameters for the external database used by the SRC VTA: • vta-database-ip—The wizard uses the value you enter as the database connection-url. • vta-database-user—The wizard uses the value you enter as the database username. • vta-database-pass—The wizard uses the value you enter as the database password.

Table 8: Input Parameters Required by the Fair Usage on MX Series Routers Configuration Wizard *(continued)*

Type of Parameters	Parameters
Router host parameters	The wizard does not configure the MX Series router. The wizard prompts you to enter values to define the MX Series router as a Diameter peer. The wizard requires you to enter the following parameters for the router host: • mx-router-name—The wizard uses the value you enter as the Diameter peer origin-hostname for the router. • mx-router-ip—The wizard uses the value you enter as the Diameter peer IP address. • mx-router-domain-name—The wizard uses the value you enter as the Diameter peer name. You must manually configure the rest of the configuration for the MX Series router. Certain router configuration parameters, such as dynamic profiles, must be consistent between the SRC configuration and the router configuration. The MX Series router configuration described in this section is for reference only. A sample MX Series router configuration that can work with the SRC configuration created by the fair usage on MX Series routers configuration wizard is provided in a text file in the format of the Junos OS configuration. The sample configuration contains everything under the fair-usage group. The configuration configures IP dynamic interfaces for Dynamic Host Configuration Protocol (DHCP) access. You must edit the interface names that are used for DHCP access in this sample configuration. The sample configuration file is **DemosAndSamplesApplications/wizard/fair-usage-mx.txt** in SDK+AppSupport+Demos+Samples.tar.gz.

Related Documentation

- Fair Usage on MX Series Routers Configuration Wizard Overview on page 7
- Running the Fair Usage on MX Series Routers Configuration Wizard (SRC CLI) on page 23

PART 2

Configuration

CHAPTER 2

Configuration Tasks for SRC Configuration Wizards

Running the Fair Usage on MX Series Routers Configuration Wizard (SRC CLI)

The fair usage on MX Series routers configuration wizard uses the SAE group name "fair-usage", which must exist before you invoke the wizard. If the group "fair-usage" does not exist, you must create it by committing **set slot 0 sae shared /SAE/fair-usage**. Because the wizard uses a single-step configuration commit process, it is not possible to commit the local and shared SAE configurations simultaneously.

Refer to "Fair Usage on MX Series Routers Configuration Wizard Configuration Overview" on page 8 for more information about the parameters you need to configure for this procedure.

The wizard definition file is located under /opt/UMC/cli/ddl/. To run the fair usage on MX Series routers configuration wizard:

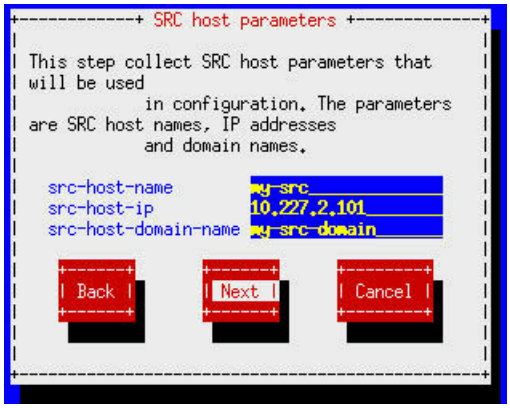
1. From configuration mode, access the configuration statement that runs the fair usage on MX Series routers configuration wizard.

   ```
   [edit]
   user@host# configuration-wizard wizard-name fair-usage-mx.wiz.xml
   ```

   Most of the SRC configuration is predefined in the wizard definition file. However, you must enter the values for parameters specific to your environment in the following steps. Navigate through the dialog boxes by pressing the Tab key and the Space bar.

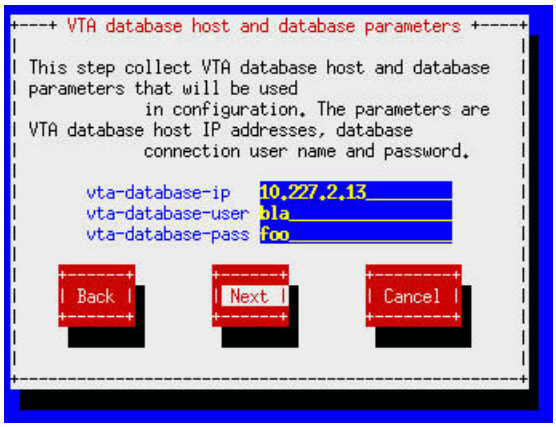
2. Enter the values for the SRC host parameters dialog box. Figure 4 on page 24 shows a sample dialog box for these parameters.

Figure 4: SRC Host Parameters Dialog Box



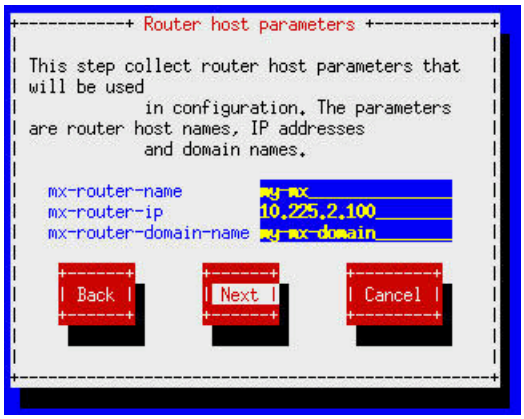
3. Press Tab to highlight Next and press the Space bar to navigate to the next screen.
4. Enter the values for the VTA database host and database parameters dialog box. Figure 5 on page 24 shows a sample dialog box for these parameters.

Figure 5: SRC VTA Database Parameters Dialog Box



5. Enter the values for the Router host parameters dialog box. Figure 6 on page 24 shows a sample dialog box for these parameters.

Figure 6: Router Host Parameters Dialog Box



6. Press Tab to highlight Finish and then press the Space bar to select it. The wizard displays a list of corresponding SRC CLI set commands reflecting the values you entered. Review the corresponding SRC CLI set commands. If you want to make changes, use Back until you reach the dialog box you want to change.
7. After you complete the configuration, select Commit from the set commands dialog box. The wizard responds with:

```
user@host# configuration-wizard wizard-name fair-usage-mx.wiz.xml
Please wait, it may take some minutes ...
Committed

[edit]
user@host#
```

Related Documentation

- Fair Usage on MX Series Routers Configuration Wizard Overview on page 7
- Fair Usage on MX Series Routers Configuration Wizard Configuration Overview on page 8

Running a Configuration Wizard (SRC CLI)

To run a configuration wizard:

- From configuration mode, access the configuration statement that runs the configuration wizard.

  user@host# **configuration-wizard wizard-name** ***wizard-name*** **tag** ***tag-file-name***

  Where:

  - *wizard-name*—Specifies the name of the wizard you want to run.
  - *tag-file-name*—Specifies the name of a tag file that is automatically generated when you save the uncommitted configurations.

Related Documentation

- SRC Configuration Wizards Overview (SRC CLI) on page 3
- Running a Configuration Wizard (C-Web Interface) on page 26

Running a Configuration Wizard (C-Web Interface)

The configuration wizard simplifies configuring the most common configuration scenarios.

To run a configuration wizard using the C-Web Interface:

1. Click **Configure** > **Configuration Wizard**.

   The configuration wizard appears.

   NOTE:
   - You can access the configuration wizard only if your privilege is set as **superuser**.
   - You are prompted to commit or roll back the configuration, if there are any previous uncommitted configuration changes.

2. Select an option button to locate the standard or custom wizard definition file.
   - To open the standard definition file, enter the name of the wizard definition file you want to run.
   - To upload the customized definition file, click the **Browse** button and navigate to the specific wizard definition file from your environment. Then click **Upload**.

   NOTE: Incorrect changes to the wizard definition file can result in undesired configuration changes. Any customization of the wizard definition file must be approved by Juniper Networks.

3. In the **Tag File** text box, enter the name of the tag file.

   NOTE:
   - The naming convention of a tag file is *<wizard definition filename>*_*<username>*_Cwebtag_*<timestamp>*.tmp.

     Where:
     - *wizard definition filename*—Specifies the name of the wizard definition file.
     - *username*—Specifies the name of the user.
     - *timestamp*—Specifies the current system timestamp.
   - You can access the configuration wizard along with the tag file when the tag file is compatible with the wizard definition file. These files are compatible only if the tag file is created from the corresponding wizard definition file.

4. Click **Open wizard**. The configuration wizard is displayed. On each wizard pop-up, enter the configuration data.

5. Click **Finish** on the final wizard pop-up. The modified CLI data tree is displayed.
6. Click **Commit** to commit your changes.

   You can navigate back to the wizard and correct any validation errors by using the **<<Go Back** button.

Related Documentation

- SRC Configuration Wizards Overview (C-Web Interface) on page 5
- Running a Configuration Wizard (SRC CLI) on page 25

PART 3

Index

Index